Forest Health Protection
Pacific Southwest Region

Date: March 30, 2010
File Code: 3420

To: Skip Ritter, State Forester, BLM California State Office
Ren Reynolds, EPA Planner, Enterprise Rancheria
Gerald Jones, Regional Forester, BIA Pacific Region

Subject: Insect and disease evaluation of proposed suppression project on BLM land adjacent to the Enterprise Rancheria (FHP Report N10-04)

At the request of Brennan Guerreltz, Forester, (BLM Redding Area Office), Forest Health Protection (FHP) Plant Pathologist and Cynthia Snyder, FHP Plant Entomologist, conducted a field evaluation of plantations within the Willow Creek Project on September 1, 2009. The objective of the visit was to evaluate the current forest health conditions within the stands, discuss what influence these conditions have on stand management objectives and provide recommendations as appropriate.

Background
The Mendocino National Forest has proposed 200 acres of thinning in densely overstocked plantations located in the Willow Creek area within the Rice Fork watershed which supplies water to Lake Pillsbury and the Main Eel River. Willow Creek was severely impacted by the Round Fire of 1966. Plantations were established in the 1980s on high productivity sites (average Site II) following salvage logging operations. No site preparation or fuels treatment activities were employed and these 25+ years old plantations have not had any successive release treatments. Planted seedling survival far exceeded expectations and has also been supplemented with some natural regeneration. As a result they are exhibiting stress from over stocking. Brush and hardwood competition is moderate to heavy. Trees are growing well, with most stands past crown closure. However, as crown competition continues to increase so will mortality, stress, and fuel/fire hazards.

Willow Creek project lies within the Howard WUI adjacent to the Pine Mountain LSR and has been identified as potential future habitat for Northern Spotted Owls. The proposed thinning would accelerate development of larger diameter trees, a key element in establishment of late-successional habitat. The restoration of Willow Creek has been of great interest to forest users and regulatory agencies including the Fish and Wildlife

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Service, National Marine Fisheries Service and the North Coast Water Quality Control Board. NEPA is complete for this project under the 2004 Willow Creek Mechanical Thinning and Release Project.

Stands consist primarily of ponderosa pine with lesser amounts of Douglas-fir, sugar pine, black oak and madrone. Current stocking levels average 400-600+ trees per acre (Figure 1). Proposed thinning to 109 trees per acre (20 foot spacing) will reduce inter-tree competition, treat excessive fuel loading and accelerate development of larger, more resilient stands. The thinned plantations will fit in well with the proposed fuel reduction treatments in the adjacent Pine Mountain LSR and augment adjacent mechanically masticated stands to form the backbone of SPLATS designed to break up the continuity of this large block of even-aged, highly fire-susceptible plantations.

Observations

Currently plantations are estimated to be more than two times the recommended density. There are the usual suite of plantation pests including pine shoot borer (*Eucosma sonomana*) and pine tip moth (*Rhyacionia zozana*). However, most pines are beginning to outgrow the pests and they need not become an issue in these stands. The stands are becoming very dense, and the risk of attack by western and mountain pine beetle (*Dendroctonus brevicomis* and *Dendroctonus ponderosae*, respectively) is increasing. The risk of crown fire and mortality from drought is likewise increasing. Western pine beetle and red turpentine beetle (*D. valens*) were found in some of the larger residual ponderosa pines.

Parts of the Willow Creek area have been burned more recently by the Back Fire in 2008. The Back Fire was part of the lightning complex fires in June 2008, which burned an adjacent 1,600 acres including some untreated plantations. This plantation loss and subsequent reforestation need resulting from the fire demonstrates that without thinning and fuels treatment these developing plantations are highly susceptible to wildfire and subsequent insect and disease loss. Fires which begin in or enter these plantations pose a direct threat to the Howard WUI which surrounds the southern Lake Pillsbury recreation area.

Discussion and Recommendations

Willow Creek project lies within the Howard WUI adjacent to the Pine Mountain LSR and has been identified as potential future habitat for Northern Spotted Owls. Late Successional Reserves are managed to protect and enhance conditions of late successional and old growth forest ecosystems. Important structural attributes include live old growth trees, standing snags, fallen logs on the forest floor and in streams, multiple canopy layers, canopy gaps and patchy understory. The proposed treatment would aid in the transition to owl habitat while reducing the potential for bark beetle attack by improving the vigor of residual trees.

The stands are becoming very dense, and the risk to attack by western and mountain pine beetle (*Dendroctonus brevicomis* and *Dendroctonus ponderosae*, respectively) is increasing fast. The risk to crown fire and mortality from drought is likewise increasing. I support the District plan to precommercially thin the plantations, leaving only the healthiest, most vigorous trees. These treatments, if fully implemented, will be effective

in addressing concerns regarding bark beetles, fire and drought, while producing more diverse and resilient stand structure and enhancing wildlife and timber values and meet Regional Density Management policy.

If you have any questions regarding this report and/or need additional information please contact Cynthia Snyder at 530-226-2437 or Pete Angwin at 530-226-2436.

/s/ Cynthia Snyder

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cc: Nancy Mulligan, Nancy Gard, Chad Atwood, Pete Angwin, Sheri Smith, Julie Lydick and Phil Cannon

Four years ago, Entomologist Dave Schultz and I visited the Enterprise Rancheria and found light infestations of ponderosa pine dwarf mistletoe (*Arceuthobium campylopodum*) and gray pine dwarf mistletoe (*Arceuthobium occidentale*) scattered throughout the ponderosa pine and gray pine on the Rancheria. The results of our visit were detailed in FHP Report #N06-02. At the time, we recommended that a sanitation thin be performed on the pines, along with a thinning/removal treatment of oak and brush that were elevating fuel levels and increasing stress in the overstory pines. Although I've been told that most of the oak and brush has been removed in a recent fuels treatment, the dwarf mistletoe-infected pines still remain. The BLM has submitted a Forest Pest Management Prevention/Suppression project proposal for $3,000 to perform a presuppression survey in 2010, and the BIA would like to partner with the BLM to perform similar sanitation treatments on the BLM land surrounding the Rancheria.

Although I have not visited the Enterprise Rancheria since 2005, my treatment recommendations remain the same. Unless the most of the dwarf mistletoe-infected pines are removed, ponderosa and gray pines that are planted or regenerated under the infested overstory will rapidly become infected as well. Immediate sanitation thinning holds the best chance of retaining the best of the overstory pines while preventing the infection of developing understory pines. The treatment has the potential to improve forest health conditions for many years to come. For this reason, I support the proposal for funds for this treatment.